

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(currently amended) A printed circuit board having a permanent solder mask comprising:

a substrate made of a material including a first resin, said substrate having top and bottom surfaces, a first conductive pattern disposed on said top surface and having an unsheltered portion and a sheltered portion, said unsheltered portion having a base and a tip; and

a first solder mask made of a second resin having a thermal expansion coefficient substantially identical to ~~that~~the thermal expansion coefficient of said first resin of said substrate, said first solder mask coated on said top surface ~~in such a way that~~to form thereon a layer having a first area and a second area ~~is formed thereon~~, said first area having a first thickness, a smooth outer surface, and covering said sheltered portion, said second area having a second thickness less than that of said first area and surrounding said base of said unsheltered portion such that said tip of said unsheltered portion is exposed outside.

2.(currently amended) The printed circuit board of claim 1, wherein the difference between the thickness of the highest position of said first area of said first solder mask and ~~that~~the thickness of the lowest position of said first area of

said first solder mask is equal to or less than 10 μ m measuring with a length unit of 500mm.

3.(original) The printed circuit board of claim 1, wherein said bottom surface of said substrate is disposed a second conductive pattern having an unsheltered portion and a sheltered portion.

4.(currently amended) The printed circuit board of claim 3, wherein a second solder mask made of said second resin is coated on said bottom surface ~~in such a way that to form~~ thereon a layer having a first and second areas ~~are formed thereon~~, said first area having a first thickness, a smooth outer surface, and covering said sheltered portion, said second area having a second thickness less than ~~that of said first area~~ the first thickness and surrounding said base of said unsheltered portion such that said tip of said unsheltered portion is exposed outside.

5.(original) The printed circuit board of claim 3 or 4, wherein said substrate further comprises a plurality of conductive vias therethrough by which said conductive patterns are electrically connected each other.

6.(currently amended) The printed circuit board of claim 5, wherein said conductive via has an interfill made of a material identical to ~~that~~ the material of said solder mask.

7.(currently amended) The printed circuit board of claim 1, wherein ~~the average thickness of said first~~

Appln. No. 10/758,426
Amd. dated December 23, 2004
Reply to Office Action of June 24, 2004

area of said solder mask ~~is~~has an average thickness
between $2\mu\text{m}$ ~ $200\mu\text{m}$.

8.(currently amended) The printed circuit board of
claim 1, wherein ~~the micro-roughness of~~ said outer
surface of said first area ~~is~~has a micro-roughness
between $0.5\mu\text{m}$ ~ $10\mu\text{m}$.